Unit 10 Day 1: Simplifying Radicals Name: Date:

In $\sqrt{64}$, the $\sqrt{\ }$ is called the _____ (or _____ _____) and 64 is called the _____.

$\sqrt{64}$ = _____ or _____ because…

** Note: When "simplifying" radicals, we only consider the positive answers! **

SIMPLIFYING RADICALS:

"The Buddy System" - The radical is a house, and numbers only get to leave the house if they have a buddy!

$\sqrt{75}$

1) Is the number a perfect square?
2) If not, make a factor tree!
3) Looking at the bottoms of the factor tree, circle any "buddies"
4) Buddies get to leave the radical – write the number only ONCE to the left!
   No buddy? That number is stuck inside the house!
5) Multiply any numbers outside or inside the radical.

"The Buddy System" - The radical is a house, and numbers only get to leave the house if they have a buddy!

$\sqrt{540}$

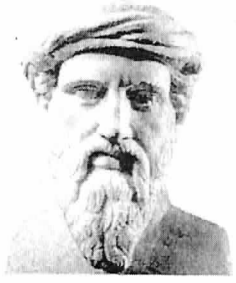
1) Is the number a perfect square?
2) If not, make a factor tree!
3) Looking at the bottoms of the factor tree, circle any "buddies"
4) Buddies get to leave the radical – write the number only ONCE to the left!
   No buddy? That number is stuck inside the house!
5) Multiply any numbers outside or inside the radical.

PRACTICE:

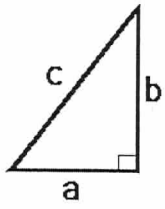
1. $\sqrt{80}$
2. $\sqrt{54}$
3. $\sqrt{324}$
4. $\sqrt{210}$

5. ___ 6. ___ 7. ___ 8. ___

PYTHAGORAS – Ancient Greece, 570-495 BCE



Pythagorean Theorem



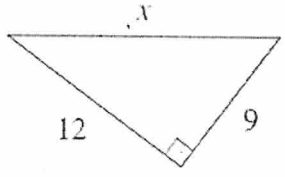
$a^2 + b^2 = c^2$

Only in _____ triangles!

a and ***b*** are switchable!

c must be the longest side, across from the right angle (little square)

1)



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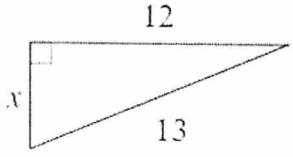

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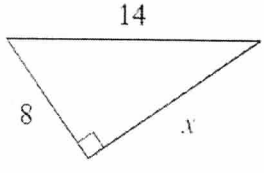

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